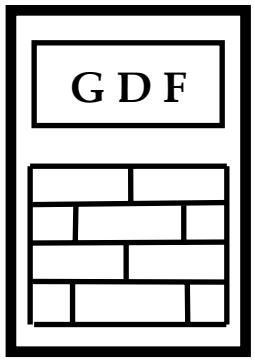
GDF DATA BANKS BULLETIN

Pattern of Cancer Diseases



VOL. 12 , No. 2

SYDNEY February 2008

AUSTRALIA

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39 + 3 pages

ISSN 1453-1674

9 771453 167008

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Pattern of cancer diseases

Abstract

Age evolution of cancer diseases can be studied by topoenergetic representations in view to establish their nature, amplitude and inter-relation. In the present study sigmoid representation is used by considering the age-specific incidence rate separated by sex, cancer type and ethnic/race and normalized to 100% of specific population (same age, sex and region).These data can be obtained from official registrations in Australia (1982-2003), Scotland (1980-2004), Mumbai (1990-1996), NYS, NYS (2000-2004), US (1999), Japan (1998, 1999). Data reported by RSA (1999) are also considered, although these do not allow such representations. The main results: (i) cancer diseases are driven by sexual activity, for instance female breast cancer appears to trigger male prostate cancer in a specific way for ethnic group/race and region; (ii) the ratio between male and female cancer amplitude (by taking into account all cancer types) is very close to golden ratio (1.618…) no matter ethnic group/race and region; (iii) not all cancer types have the same nature, so their development (kinetics) is specific for each sex, ethnic group/race and region.

Abbreviations and their Assignments

L(x, y)	linear representation of the quantities (x, y): $y = n1*x + m1$
(n1, m1)	first phylogeny parameters
(n2, m2)	2^{nd} phylogeny parameters
NASCM(F)P	Normalized Age-Specific Cancers in Male (Female) Population = new M(F)P cancers (as overall or of specified type) per annum for a specific stable population with the same 5 ayr age interval reported to the all this population in a delimited geographic region (country) (in %).
S(θ(t), t)	Sigmoid representation of the unimodal time-variation of the response function θ(t) to a stepwise perturbation: $\theta(t) = a/(1 + b*\exp(-c*t))$ θ(t) = NASCM(F)P (in %) t is the age (in ayr).
a	The saturation value of θ(t) at the saturation age (in %)
b	A damping coefficient of kinetic rate (d-less)
c	A dilatation/compression of time evolution of the process (in 1/ayr)
A1/2	The age corresponding to (a/2) of cancer evolution (similar to half time from general theory of kinetics)
ICD-10	International Code of Disease version 10 issued by WHO according to which cancer types are coded.
MP, FP	Male (Female) Population
a(MP-C61/FP-C50)	Represents the number of males with prostate cancer for one female with breast cancer at saturation age of both processes. This figure defines the coupling strength between these two processes that is specific for a population considered as having a uniform life style.
ayr	Year of age
cyr	Calendar year
AI/AN	American Indian / Alaska Native
API	Asian Pacific Islander
GR	golden ratio = 1.61803…; 1/GR = 0.61803…
crude	Term used by RSA cancer registry = age specific rate = new cases per annum of specific type of cancer for 100,000 persons of a specific population
%(MP), %(FP)	cancer incidence of a specific type for a specific population expressed as percentage from all cancers (term used by RSA cancer registry)

NYC	New York City
NYS	New York State
US	United States of America
RSA	Republic of South Africa
SD	Standard Deviation with confidence level of 68.3%
ICD-10	International Classification of Diseases (version 10) issued by WHO
WHO	World Health Organization
IMPORTANT 1	All errors associated to given values and graphic points are SD.
IMPORTANT 2	All cancer diseases are mentioned according to ICD-10

Sigmoid representation

Kinetics of cancer diseases can be thoroughly studied by considering the age specific rate data of incidence amplitude defined in the present study as NASCM(F)P and expressed in %. Cancer registries from most important Commonwealth countries (excepting RSA), Japan and US display by their websites these data as age specific incidence rate reported to 100,000 MP and FP, respectively, so these can be simply converted in NASCM(F)P values.
The following registrations are considered in the present study:

Country/region/races	Period (cyr)
Australia –all races	1982-2003
Scotland –all races	1980-2004
NYC - all races	2000-2004
NYS - all races	2000-2004
US - all races, white, black, API, AI/AN, hispanic	1999
Mumbai – all races	1990-1996
Japan – all races	1998, 1999
RSA – all races, white, black, coloured, asian	1998, 1999

Initial studies have revealed some important features of most important cancer types [1, 2] and the latest study was focused on prostate (MP-C61) and breast (FP-C50) cancers as the most representative types for a stable population in a geographic region [3]. Universal representation of data on age specific incidence rate was used to establish the nature, amplitude and coupling strength of these cancer types.
However, the conditions in which these data are obtained show that a population is exposed to a specific lifestyle inducing by age specific cancer diseases measured by NASCM(F)P. The life style appears as the governing potential applied as a stepwise perturbation on population and NASCM(F)P as the response function. In this moment we can not and it is not immediately important to define the exact parameters of life style, but to compare kinetics of different cancer types for the same populations and different countries.
The general topoenergetic theory shows that the evolution of a system in such conditions according to a unitary transformation process shows sigmoid time dependence as the variation between two equilibrium values, namely the initial (0) and the final one (a), respectively [4].
Figure 1 represents NASCM(F)P data vs age for all cancers averaged on the period of 1982-2003 in Australia. These graphics show the sigmoid evolution and are typical for all data on cancer types and populations considered in this study, so that all S(NASCM(F)P, age) representations are fitted with correlation

coefficients better than 0.99. The main kinetic parameters defining each evolution are represented by (a, A1/2).

Table 1 gives these values for <NASCM(F)P> averaged on the period 1982-2003 and Table 2 gives the averaged values of individual year. As the previous study has revealed [3] and actual data including graphics in Figure 1 (see the SD error bars) show the kinetics of cancer diseases in Australia in the period of 1982-2003 does not change significantly.

It is important to notice that the process denoted as MP-C61/FP-C50 is defined by the response function (NASCMP-C61/NASCFP-C50), so that the resulted a values represent the number of males with C61 for one women with C50 (not % !). This ratio is very important revealing once again the coupling strength between the two cancer types [3].

Table 3 gives these kinetic parameters for the same cancer types in Scotland averaged on the period of 1980-2004. It is important to notice that the saturation amplitude for FP-C50 shows a linear increase during this period of calendar time (Figure 2).

Table 4-7 give the similar data for NYC, NYS (200-2004), Mumbai (India 1990-1996) and Japan (individual cyr of 1998 and 1999).

As general rules we can observe that:

(i) amplitude for MP is systematically greater than for FP;

(ii) especially the ratio MP-C61/FP-C50 can be used as the pattern of local life style. Japan shows the highest value of this ratio which dramatically changes for two consecutive cyr;

(iii) A1/2 for FP-C50 is considerably smaller than for other cancer types.

Phylogeny relationships

Phylogeny relationships of sigmoid parameters can reveal more information on the nature and amplitude of cancer diseases.
Parameters b and c are strongly interconnected in the representation

$$L(c, \ln(b)) : \ln(b) = n1*c + m1 \quad (1)$$

where n1 is expressed in ayr and m1 is dless.
It results that:

$$A1/2 = n1 + (m1/c) \quad \text{in ayr} \quad (2).$$

For a phylogeny series of cancer diseases proper to a geographic region we can observe that each type in the series is characterized by A1/2 composed by a general term n1 corrected by a specific term (m1/c). In the case when $m1 \approx 0$ (line crosses the origin) all types in the series has the same A1/2 value. Parameter n1 appears as a characteristic period of phylogeny series.
It is important to represent this phylogeny for registrations of each country/region.
Figure 3 shows this phylogeny for Australia 1982-2003 in which two distinct behaviours appears denoted as Australia 1 and 2, respectively.
Figures 4 – 8 shows similar phylogenies for other registrations. It can observe that FP-C50, FP-C43 and MP,FP-C91-C95 are frequently located outside of the phylogeny of the other types and these points are eliminated from calculation of (n1, m1).
Figure 9 shows the second phylogeny of parameters (n1, m1) calculated for each type of cancer disease in each cyr of registration in Australia 1982-2003. It appears also that some of FP types are located outside of the other types.
Figure 10 gathers the (n1, m1) parameters of all registrations for which (n2, m2) resulted very close to these of Australia (Figure 9).
If we take a look on graphic in Figure 10, we can observe that:

(i) all registrations (excepting Australia 2 and the individual points of cancer types eliminated in phylogeny of each country) have the same nature;
(ii) Mumbai and Japan have greatest n1 values while Australia 1 has the smallest value;
(iii) similar separation occurs for US races.

This relationship explains the differences in life style specific to countries/regions and ethnic groups/races and its influence on mechanism of cancer diseases. It appears that Mumbai and Japan populations are more resistant than Australian population to cancer diseases.

MP/FP relationship

Registrations considered in this series of studies on cancer refer to stable population in different countries and geographic regions. This population gathers MP and FP as well, so it is important to reveal their coupling in cancer mechanism.

As a matter of fact, isolated MP and FP living in equilibrium conditions for long time (monasteries, prisons, shepherds, etc.) show practically no incidence of cancer and the main reason is the different life style based on lack of sexual activity. There also mixed populations in which sexual activity is strictly controlled by religious and ethnic bases, so the cancer incidence in very low. In a separate study we will review in more detail the sexual aspect in cancer mechanism.

Figure 11 shows first phylogeny of L(ln(a), ln(A1/2)) for the ratio MP-C61/FP-C50 for which $n1 > 0$. It is interesting to observe countries and ethnic groups forming a common phylogeny and what are the other ones separated from that. In this phylogeny US-white is located at lowest values while Japan at greatest values of (a, A1/2), but the nature of MP-C61/FP-C50 process is the same for all populations on the straight line. It appears that the sigmoid has the same shape, but is scaled up specifically for each population.

Another aspect of MP-FP coupling in cancer diseases can be revealed by considering the ratio a(MP)/a(FP) for different cancer types. Table 8 gives these values for all cancers and all registrations considered. Although the final average values for US-1999 are very close to other countries, we can discuss the differences between the local average values in relation to sexual activity specific to each country and ethnic group.

Another manner to reveal MP-FP coupling is to represent a(FP) vs a(MP) for all cancer types. Figure 12 shows this dependence for a group of countries and Figure 13 separately for US. As we can see the points are grouped along a straight line crossing the origin with the slope very close to GR (Table 9).

Figure 14 and 15 show the similar relationship for RSA-1999, but taking into account amplitude of incidence of each type expressed in % from all cancers and crude value, respectively. Also straight lines are crossing the origin, but slopes are a little different (Table 10).

Figure 16 shows the second phylogeny of L(crude(MP), crude(FP)) taking into account individual values of crude(MP, FP) for all race groups in RSA-1999. The results for RSA registrations are not based on age-evolution of a response function defining the cancer diseases, so these can not be compared with the results obtained for the other registrations retrieved according to sigmoid representation.

It is important to note that in mixed stable populations the ratio $a(MP)/a(FP) \approx GR$ for any country, region and ethnic group/race.

Concluding remarks

1. Sigmoid representation of age development for all cancer types is available with high correlation coefficients (>0.99) taking into consideration NASCM(F)P data as response function.
2. For almost all cancer types a(MP) > a(FP), so that a(MP)/a(FP) ≈ GR no matter the country, region and ethnic group/race.
3. Cancer diseases appear in mixed stable populations for a country, geographic region and ethnic groups/races and are mainly triggered by sexual activity.
4. Phylogeny of L(c, ln(b)) and L(ln(a), ln(A1/2)) allow to reveal in more detail the nature and amplitude of cancer types as a function of country, region and ethnic group/race.
5. FP-C50 has the smallest A1/2 values for all considered populations and appears having a different nature than other types.
6. FP-C50 appears to trigger MP-C61, so that a(MP-C61/FP-C50) defines the number of men with C61 for one woman with C50; this ratio is >1 and is specific to each population defining also the sexual activity of the population. For instance, the following increasing MP/FP coupling on sexual activity results (Figure 11):

   US-white ≈ US-all races < US-AI/AN < US-API < Australia < Japan

7. A reverse order is obtained for particular values of crude(MP)/crude(FP), but for all cancers at RSA races (Figure 16):

   Asian < black ≈ coloured < all races < 1 < overall ≈ white.

   This result can not be compared with the above ones because RSA registrations do not take into consideration the age evolution. However, representations of FP vs MP for all cancers and all population in RSA in units of crude and % give a ratio of MP/FP > 1 (Figures 14, 15).

8. Table 11 presents a typical registration for most important cancer types which allows further study according to the Universal and sigmoid representations in view to reveal structural details on cancer kinetics for a specific population and region. Although such registrations are already standardized by international organisms [5], many countries do not display them according to general rule on freedom of information.

References cited

[1] G. Dragan, *Universal representation of cancer diseases. I. First sight on NSW-2003 report*, GDF Databanks Bulletin, **9**(3), 2005.
[2] G. Dragan, *Universal representation of cancer diseases. II. UK cancer registrations on 1999 - 2002*, GDF Databanks Bulletin, **9**(3), 2005.
[3] G. Dragan, *Australian Population: life, cancer and death*, GDF Databanks Bulletin , **12**(1), 2008.
[4] G. Dragan, *Solubility behaviour introducing topoenergetic working principles*, GDF Databanks Bulletin, 1(1), 1997.
[5] International Agency for Research on Cancer (IARC), 150 Cours Albert Thomas, 69372 Lyon 08, France, contact Mrs. Eva Demaret (demaret@iarc.fr), and Dr. Jerzy E. Tyczynski (tyczynski@iarc.fr).

Sources for raw data:

- Australian Government,
Australian Institute of Health and Welfare
Cancer age specific data cube
http://www.aihw.gov.au/cognos/cgi-bin/ppdscgi.exe?DC=Q&E=/Cancer/canceragerates v2007

- Scottish Cancer Registry, www.isdscotland.org

- A.R.Kamat, A.P. Kurkure, B.B. Yeole, Population based cancer registry 1990-1996, Indian Cancer Society, Mumbai (Bombay), India;

- H.Tsukuma, Progress report of research group for population-based cancer registration in Japan, 2002; Jpn. J. Clin. Oncol., 34(6), 352-356 (2004);

- American Cancer Society, Cancer Facts and Figures 2006, Atlanta, www.cancer.org;

- Nokazola Mqoqi, Patricia Kellett, Freddy Sitas, Musa Jula, Incidence of histologically diagnosed cancer in South Africa 1998-1999, National Cancer Registry of South Africa, Johannesburg, December 2004.

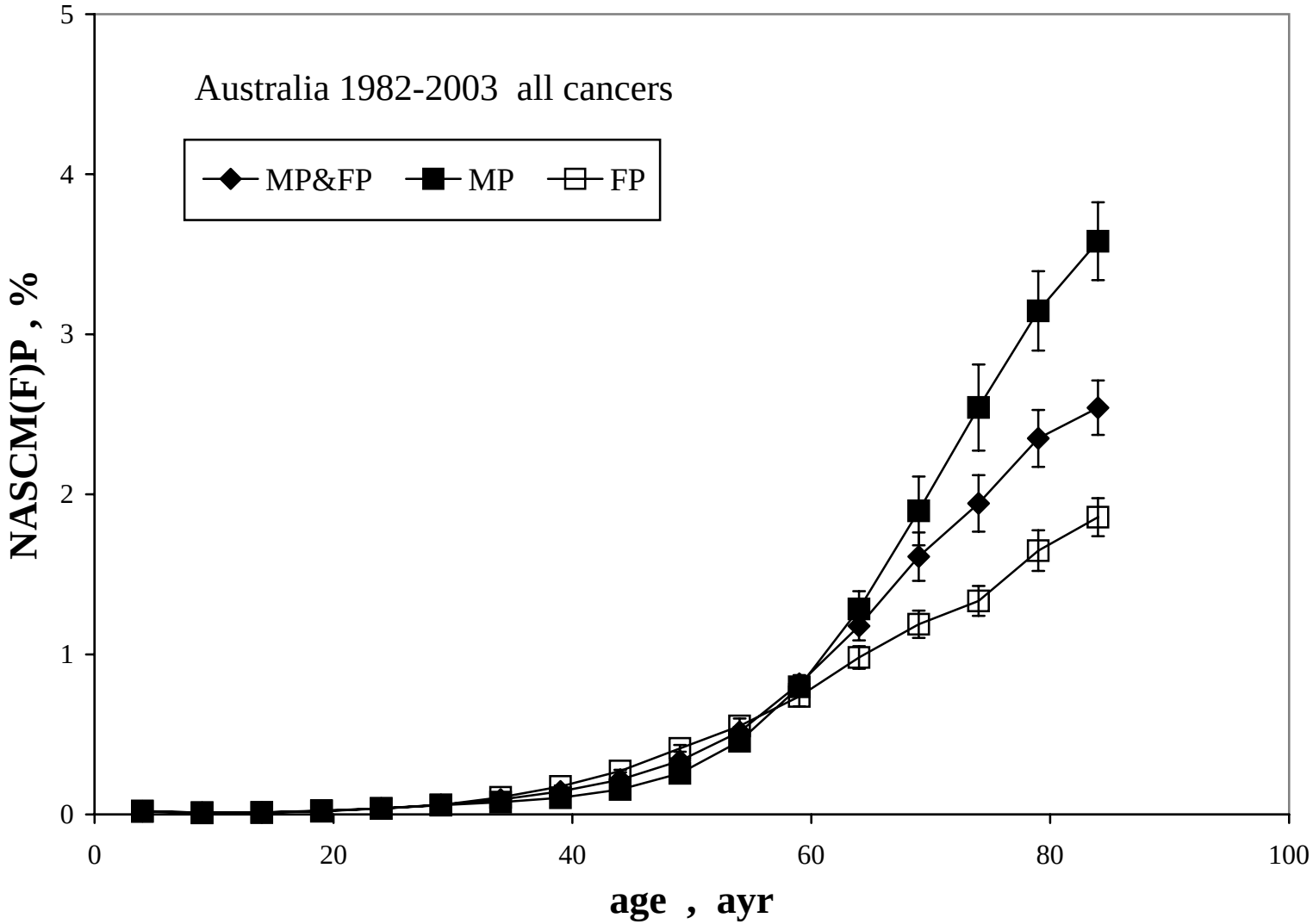

Figure 1. Typical sigmoid shape of age evolution for cancer diseases.

Table 1. Kinetic parameters derived from S(<NASCM(F)P)>, age) for different types of cancer registered in Australia in the period of 1982-2003. (associated errors = SD).

Type of cancer	population	a , %	A1/2 , ayr
All cancers	MP & FP	2.927 ± 0.044	68.7 ± 2.2
	MP	4.313 ± 0.049	71.00 ± 0.078
	FP	2.227 ± 0.059	68.8 ± 0.069
C61	MP	1.192 ± 0.029	71.9 ± 0.11
C50	FP	0.293 ± 0.008	47.84 ± 0.53
C61/C50	MP/FP	3.853 ± 0.063*	71.05 ± 0.13
C54-C55	FP	0.0550 ± 0.001	53.73 ± 0.67
C16	MP&FP	0.1256 ± 0.002	74.95 ± 0.47
	MP	0.2092 ± 0.005	76.60 ± 0.50
	FP	0.4562 ± 0.38	107.0 ± 11
C18-C21	MP&FP	0.476 ± 0.009	69.20 ± 0.31
	MP	0.566 ± 0.009	68.91 ± 0.22
	FP	0.478 ± 0.018	73.60 ± 0.61
C25	MP&FP	0.0975 ± 0.002	73.50 ± 0.57
	MP	0.1089 ± 0.002	72.69 ± 0.47
	FP	0.0945 ± 0.003	75.42 ± 0.75
C33-C34	MP&FP	0.2780 ± 0.006	63.40 ± 0.59
	MP	0.5181 ± 0.006	66.20 ± 0.16
	FP	0.1342 ± 0.004	62.0 ± 1.2
C43	MP&FP	0.159 ± 0.007	60.9 ± 2.2
	MP	0.258 ± 0.012	69.12 ± 0.87
	FP	0.101 ± 0.004	50.4 ± 3.0
C67	MP&FP	0.1818 ± 0.014	81.4 ± 1.2
	MP	0.2755 ± 0.004	75.41 ± 0.23
	FP	0.0637 ± 0.001	74.05 ± 0.48
C91-C95	MP&FP	0.143 ± 0.007	80.8 ± 1.1
	MP	0.196 ± 0.005	80.65 ± 0.51
	FP	0.187 ± 0.025	92.4 ± 2.3

*) a(C61/C50) ≈ a(C61)/a(C50) represents the number of C61-males for 1 C50-female at the saturation of both processes.

Table 2. Average kinetic parameters derived from S (NASCM(F)P, age) for different types of cancer registered in Australia in the period of 1982 – 2003 (associated errors = SD).

Type of cancer	population	a , %	A1/2 , ayr
All cancers	MP & FP	2.94 ± 0.14	68.9 ± 1.3
	MP	4.36 ± 0.25	71.2 ± 1.9
	FP	2.23 ± 0.13	69.0 ± 1.3
C61	MP	1.18 ± 0.22	71.7 ± 4.8
C50	FP	0.301 ± 0.23	48.8 ± 2.3
C61/C50	MP/FP	3.87 ± 0.67*	70.9 ± 3.5
C54-C55	FP	0.0551 ± 0.004	53.8 ± 0.98
C16	MP&FP	0.134 ± 0.046	75.5 ± 3.7
	MP	0.238 ± 0.12	77.6 ± 5.6
	FP	0.377 ± 0.64	91.2 ± 16
C18-C21	MP&FP	0.49 ± 0.4	69.8 ± 2.2
	MP	0.58 ± 0.05	69.3 ± 2.3
	FP	0.493 ± 0.078	74.1 ± 4
C25	MP&FP	0.102 ± 0.021	73.9 ± 3.3
	MP	0.125 ± 0.069	73.9 ± 5.7
	FP	0.101 ± 0.031	76.3 ± 4.3
C33-C34	MP&FP	0.28 ± 0.02	63.4 ± 2.2
	MP	0.518 ± 0.028	66.2 ± 1.9
	FP	0.136 ± 0.036	61.7 ± 2.9
C43	MP&FP	0.16 ± 0.06	59.1 ± 8.1
	MP	0.27 ± 0.12	67.6 ± 8.6
	FP	0.10 ± 0.03	49.6 ± 10.2
C67	MP&FP	0.213 ± 0.070	82.9 ± 4.4
	MP	0.286 ± 0.066	75.7 ± 3.2
	FP	0.106 ± 0.195	74.2 ± 5.1
C91-C95	MP&FP	0.20 ± 0.15	83.5 ± 10.3
	MP	0.28 ± 0.3	83.1 ± 9.4
	FP	0.27 ± 0.32	89.7 ± 13.3

*) a(C61/C50) ≈ a(C61)/a(C50) represents the number of C61-males for 1 C50-female at the saturation of both processes.

Table 3. Kinetic parameters derived from S(<NASCM(F)P>, age) of the main cancer diseases registered in Scotland in the period of 1980-2004. (associated errors = SD).

Type of cancer	population	a , %	A1/2 , ayr
All cancers	MP&FP	3.694 ± 0.039	72.80 ± 0.017
	MP	4.514 ± 0.047	72.43 ± 0.064
	FP	2.511 ± 0.072	69.97 ± 0.034
Prostate (C61)	MP	0.911 ± 0.026	75.33 ± 0.20
Breast (C50)	FP	0.2931 ± 0.0086	47.22 ± 1.1
Prostate (C61)/ Breast (C50)	MP/FP	2.374 ± 0.050*	71.19± 0.078
Stomach C16	MP	0.243 ± 0.0031	71.19 ± 0.28
	FP	0.208 ± 0.0092	81.48 ± 0.73
Colorectal C18-C21	MP	0.701 ± 0.014	74.78 ± 0.23
	FP	0.560 ± 0.024	78.89 ± 0.58
Pancreas C25	MP	0.117 ± 0.0052	72.2 ± 1.3
	FP	0.105 ± 0.005	75.8 ± 1.3
Lung C33-C34	MP	0.959 ± 0.0069	67.92 ± 0.049
	FP	0.286 ± 0.0078	62.05 ± 0.71
Skin C43	MP	0.157 ± 0.10	116 ± 21
	FP	0.098 ± 0.086	120 ± 58
Bladder C67	MP	0.316 ± 0.0041	72.70 ± 0.23
	FP	0.0799 ± 0.0023	69.6 ± 1.0
Leukaemia C91-C95	MP	0.159 ± 0.0067	80.35 ± 0.88
	FP	0.0868 ± 0.0067	80.9 ± 1.9

*) a(C61/C50) ≈ a(C61)/a(C50) represents the number of C61-males for 1 C50-female at the saturation of both processes.

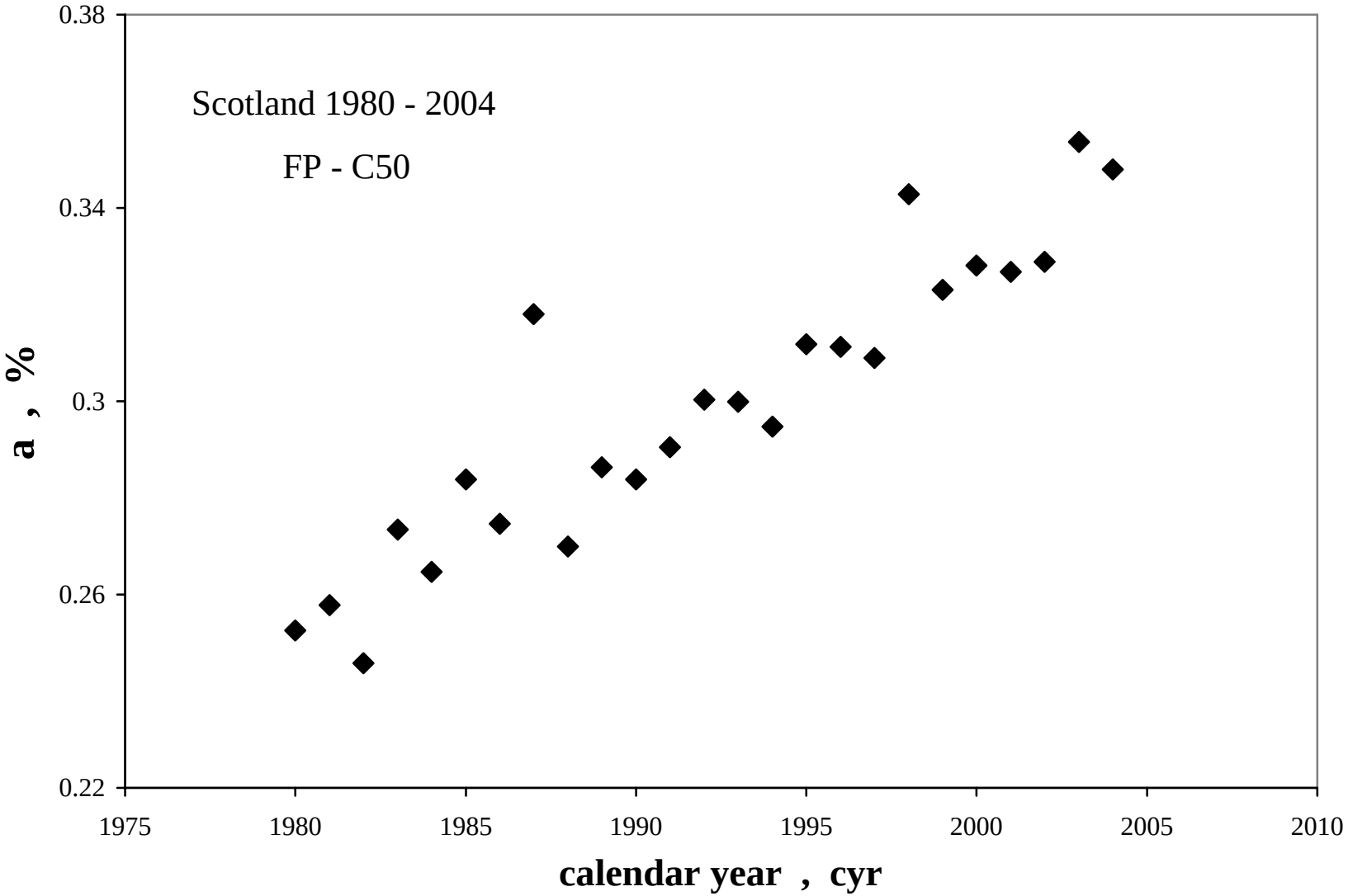

Figure2. Variation of saturation amplitude for FP-C50 in the period of 1980 - 2004 in Scotland.

Table 4. Kinetic parameters derived from S(<NASCM(F)P>, age) of the main cancer diseases registered in NYC (US) between 2000 - 2004. (associated errors = SD).

Type of cancer	population	a , %	A1/2 , ayr
All cancers	MP	3.018 ± 0.046	63.4 ± 0.17
	FP	2.296 ± 0.048	67.35 ± 0.01
Prostate (C61)	MP	0.851 ± 0.034	60.10 ± 0.24
Breast (C50)	FP	0.382 ± 0.0074	52.00 ± 0.61
Prostate (C61)/ Breast (C50)	MP/FP	2.365 ± 0.11*	57.48 ± 0.54
Stomach C16	MP	0.218 ± 0.043	81.9 ± 3.9
	FP	0.216 ± 0.81	93.9 ± 6.3
Colorectal C18-C21	MP	0.556 ± 0.020	71.66 ± 0.50
	FP	0.461 ± 0.015	75.19 ± 0.51
Pancreas C25	MP	0.131 ± 0.0065	73.3 ± 1.3
	FP	0.129 ± 0.0056	76.13 ± 0.99
Lung C33-C34	MP	0.488 ± 0.013	65.87 ± 0.43
	FP	0.289 ± 0.0029	66.40 ± 0.24
Skin C43	MP	0.0980 ± 0.0096	78.7 ± 2.9
	FP	0.0556 ± 0.026	88 ± 20
Bladder C67	MP	0.302 ± 0.0078	72.24 ± 0.45
	FP	0.103 ± 0.0087	76.7 ± 2.1
Leukemias C91-C95	MP	0.197 ± 0.077	88 ± 7.5
	FP	0.590 ± 1.2	115 ± 30

*) a(C61/C50) ≈ a(C61)/a(C50) represents the number of C61-males for 1 C50-female at the saturation of both processes = MP/FP coupling strength.

Table 5. Kinetic parameters derived from S(<NASCM(F)P>, age) of the main cancer diseases registered in NYS (US) between 2000 - 2004.

(associated errors = SD).

Type of cancer	population	a , %	A1/2 , ayr
All cancers	MP	3.459 ± 0.041	64.45 ± 0.15
	FP	2.472 ± 0.040	66.31 ± 0.02
Prostate (C61)	MP	0.934 ± 0.034	60.70 ± 0.17
Breast (C50)	FP	0.443 ± 0.0087	52.66 ± 0.54
Prostate (C61)/ Breast (C50)	MP/FP	2.242 ± 0.092*	57.72 ± 0.45
Stomach C16	MP	0.136 ± 0.012	75.4 ± 2.2
	FP	0.464 ± 0.58	113 ± 19
Colorectal C18-C21	MP	0.590 ± 0.017	72.16 ± 0.39
	FP	0.530 ± 0.010	76.55 ± 0.27
Pancreas C25	MP	0.126 ± 0.0051	71.9 ± 1.2
	FP	0.120 ± 0.0031	74.49 ± 0.65
Lung C33-C34	MP	0.580 ± 0.011	66.17 ± 0.25
	FP	0.334 ± 0.0070	63.80 ± 0.48
Skin C43	MP	0.116 ± 0.0044	72.5 ± 1.3
	FP	0.0554 ± 0.013	75 ± 13
Bladder C67	MP	0.414 ± 0.0047	72.84 ± 0.17
	FP	0.105 ± 0.0023	72.78 ± 0.63
Leukemias C91-C95	MP	0.285 ± 0.064	88.7 ± 3.7
	FP	1.219 ± 2.9	126 ± 34

*) a(C61/C50) ≈ a(C61)/a(C50) represents the number of C61-males for 1 C50-female at the saturation of both processes = MP/FP coupling strength.

Table 6. Kinetic parameters derived from S(<NASCM(F)P>, age) of the main cancer diseases registered in Mumbai (India) between 1990-1996.

(associated errors = SD).

Type of cancer	population	a , %	A1/2 , ayr
All cancers	MP	1.513 ± 0.076	71.92 ± 0.38
	FP	0.792 ± 0.057	61.31 ± 0.94
Prostate (C61)	MP	0.294 ± 0.042	77.81 ± 0.96
Breast (C50)	FP	0.127 ± 0.0055	50.5 ± 2.0
Prostate (C61)/ Breast (C50)	MP/FP	1.816 ± 0.27*	75.86 ± 0.66
Stomach C16	MP	0.0724 ± 0.0059	67.8 ± 2.0
	FP	0.0302 ± 0.0050	66.2 ± 5.7
Colorectal C18-C21	MP	0.151 ± 0.045	83.2 ± 5.0
	FP	0.162 ± 0.074	86.5 ± 6.9
Pancreas C25	MP	0.0210 ± 0.0024	64.8 ± 4.3
	FP	0.0204 ± 0.0056	68.8 ± 8.6
Lung C33-C34	MP	0.155 ± 0.0071	68.26 ± 0.84
	FP	0.0490 ± 0.0082	73.2 ± 3.7
Skin C43	MP	0.0165 ± 0.0033	67.9 ± 7.5
	FP	0.698 ± 6.5	122 ± 112
Bladder C67	MP	0.0741 ± 0.0087	72.7 ± 2.0
	FP	0.0208 ± 0.019	76 ± 25
Leukemias C91-C95	MP	0.911 ± 27	164 ± 651
	FP	0.0465 ± 0.079	93 ± 47

*) a(C61/C50) ≈ a(C61)/a(C50) represents the number of C61-males for 1 C50-female at the saturation of both processes = MP/FP coupling strength.

Table 7. Kinetic parameters derived from S(NASCM(F)P, age) of the main cancer diseases registered in Japan in 1998 and 1999.

(associated errors = SD).

Type of cancer	population	a , %	A1/2 , ayr
1998			
All cancers	MP&FP	2.955 ± 0.11	73.04 ± 0.010
	MP	3.570 ± 0.087	70.39 ± 0.15
	FP	2.946 ± 0.49	86.2 ± 1.6
Prostate (C61)	MP	0.388 ± 0.074	76.2 ± 2.3
Breast (C50)	FP	0.0967 ± 0.0040	38.8 ± 2.3
Prostate (C61)/ Breast (C50)	MP/FP	4.515 ± 0.34*	75.90 ± 0.51
Stomach C16	MP	0.713 ± 0.026	68.10 ± 0.43
	FP	0.437 ± 0.036	80.7 ± 1.4
Colorectal C18-C21	MP	0.453 ± 0.0086	64.15 ± 0.35
	FP	0.322 ± 0.011	71.23 ± 0.72
Lung C33-C34	MP	0.711 ± 0.028	73.23 ± 0.72
	FP	0.273 ± 0.023	80.9 ± 1.4
Leukemia C91-C95	MP	0.03941 ± 0.0038	71.0 ± 4.4
	FP	0.02382 ± 0.0062	73.0 ± 14
1999			
All cancers	MP&FP	2.940 ± 0.16	73.54 ± 0.009
	MP	3.513 ± 0.14	70.5 ± 0.23
	FP	3.152 ± 0.62	88.6 ± 2.0
Prostate (C61)	MP	0.405 ± 0.047	78.3 ± 1.4
Breast (C50)	FP	0.0907 ± 0.0039	39.0 ± 2.5
Prostate (C61)/ Breast (C50)	MP/FP	8.995 ± 1.8*	85.3 ± 0.22
Stomach C16	MP	0.716 ± 0.018	68.0 ± 0.29
	FP	0.437 ± 0.28	80.4 ± 11
Colorectal C18-C21	MP	0.475 ± 0.0074	64.69 ± 0.28
	FP	0.323 ± 0.011	70.35 ± 0.72
Lung C33-C34	MP	0.671 ± 0.015	72.28 ± 0.21
	FP	0.234 ± 0.013	78.3 ± 1.0
Leukemias C91-C95	MP	0.0984 ± 0.046	92 ± 11
	FP	0.0295 ± 0.0046	79 ± 7

*) a(C61/C50) ≈ a(C61)/a(C50) represents the number of C61-males for 1 C50-female at the saturation of both processes.

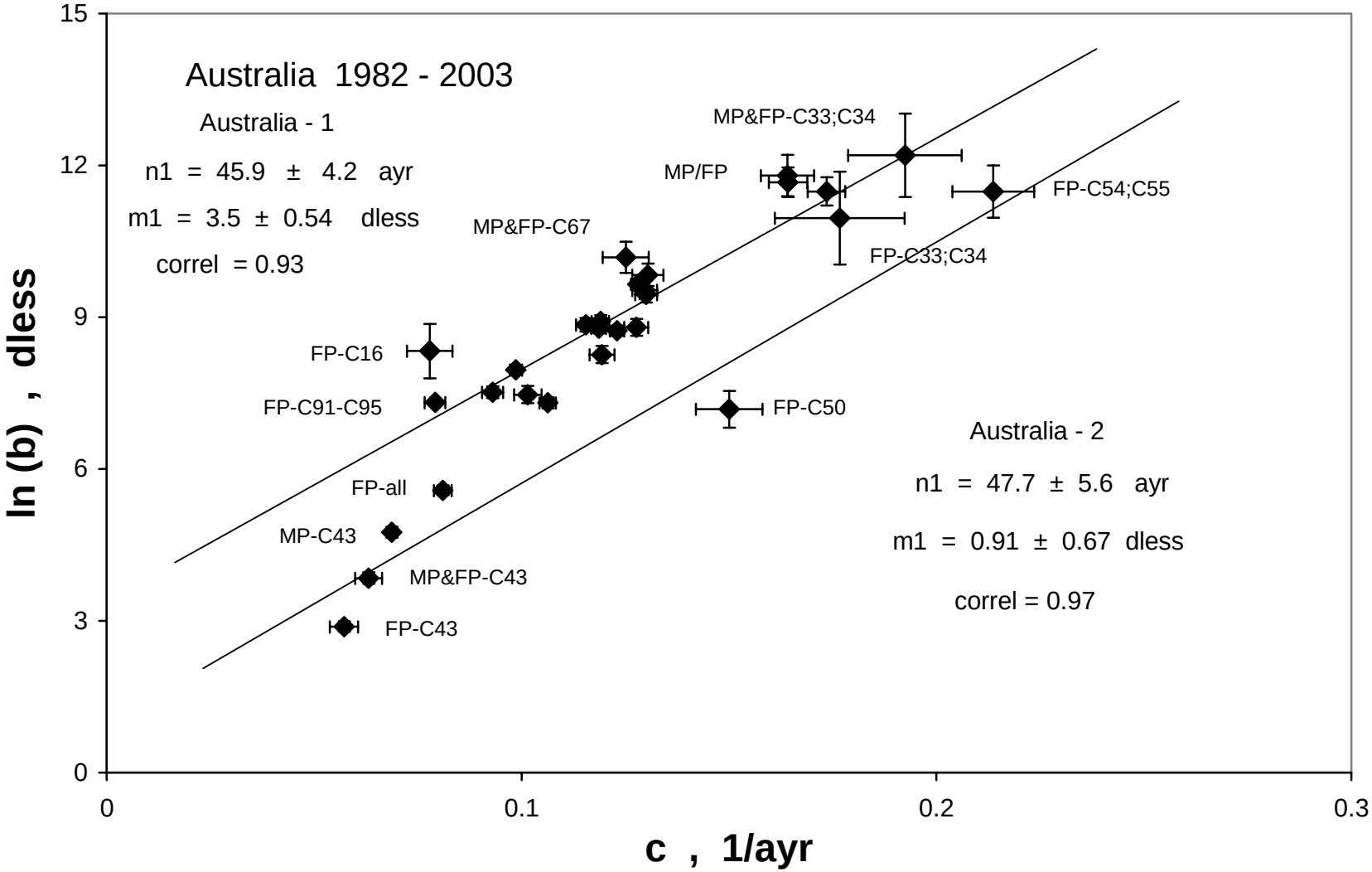

Figure 3. First phylogeny of most important cancer diseases registered in Australia in 1982 – 2003.

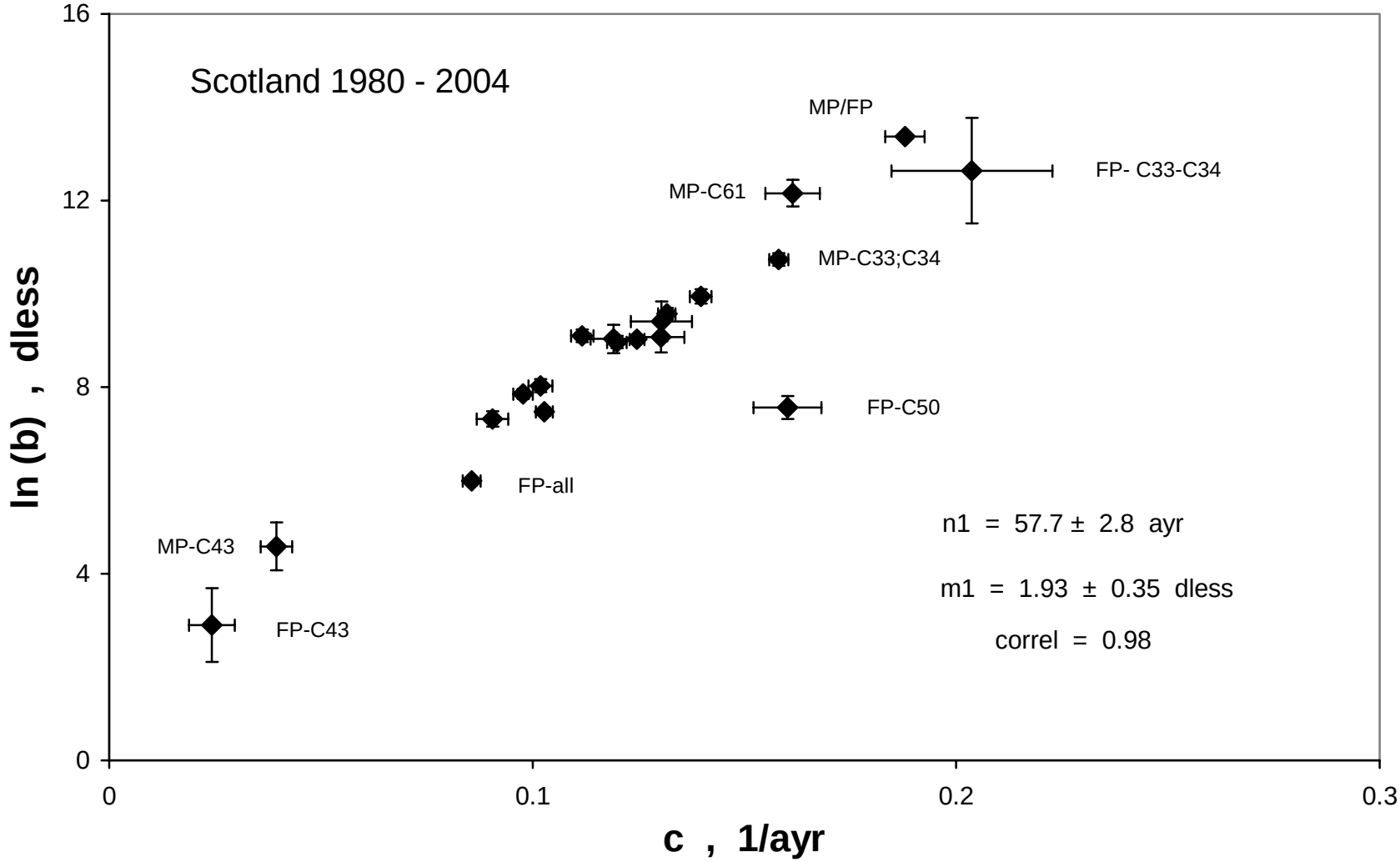

Figure 4. First phylogeny of most important cancer diseases registered in Scotland in 1980 – 2004.

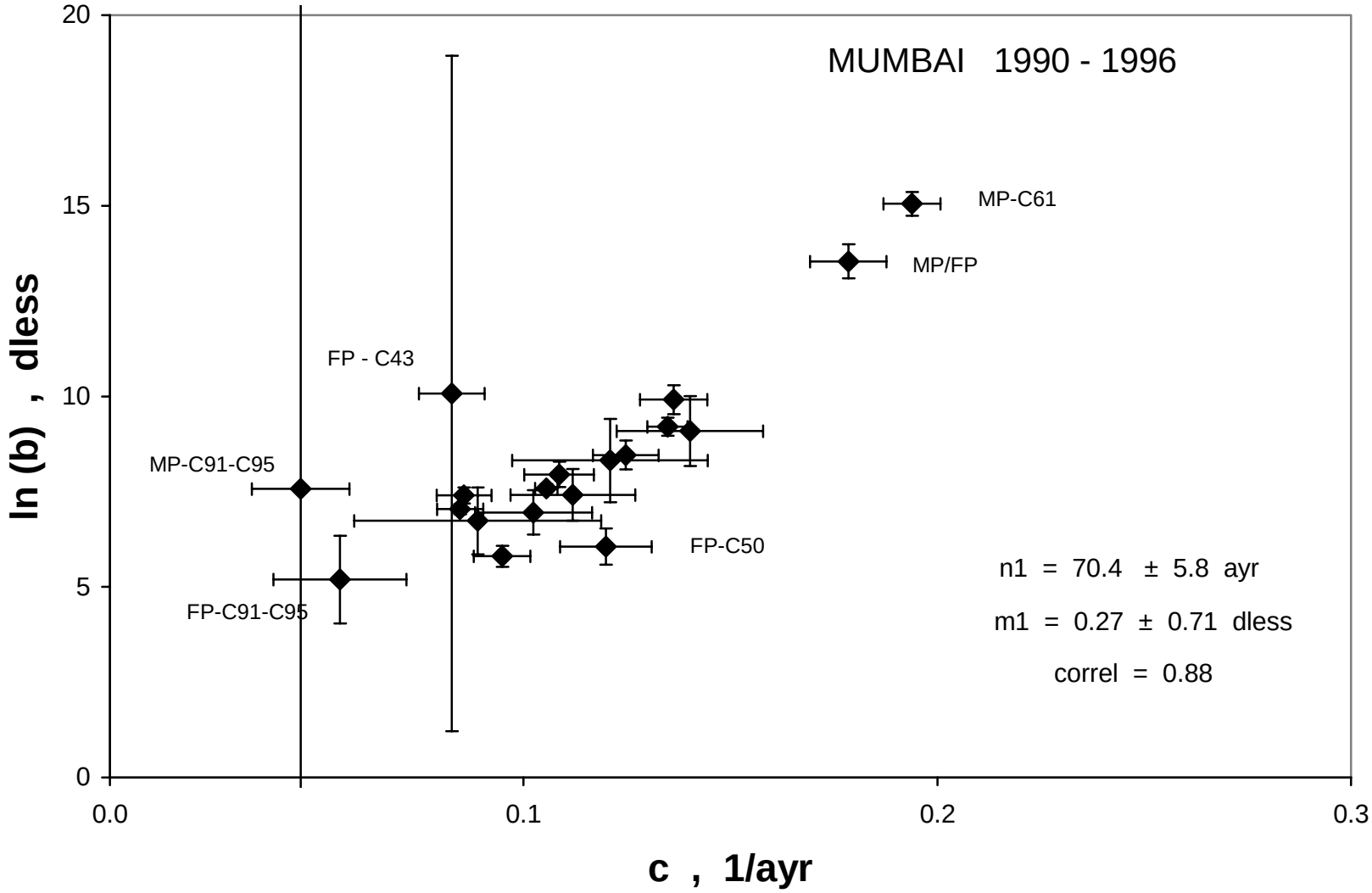

Figure 5. First phylogeny of most important cancer diseases registered in Mumbai in 1990 – 1996.

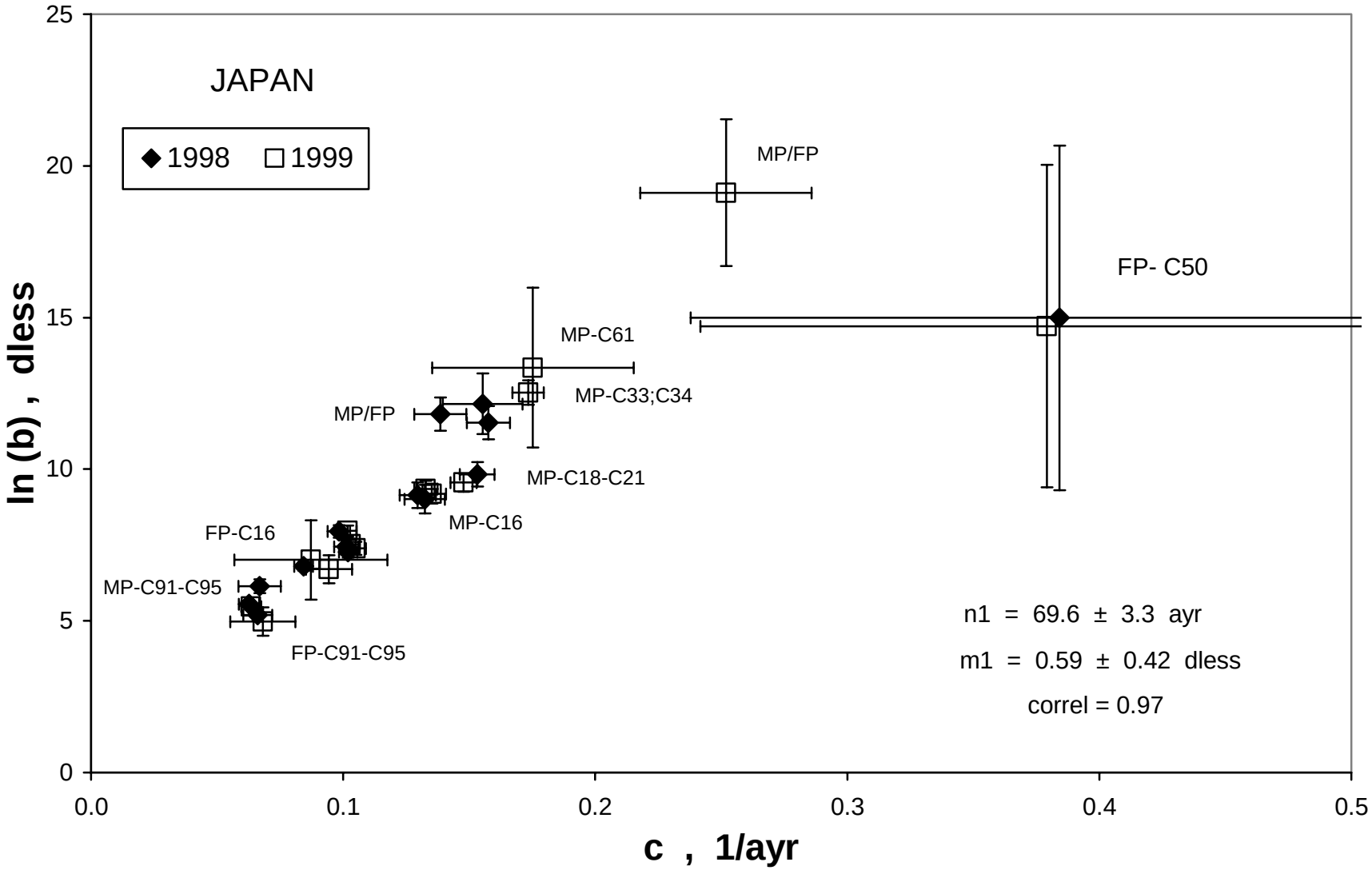

Figure 6. First phylogeny of most important cancer diseases registered in Japan in 1998 – 1999.

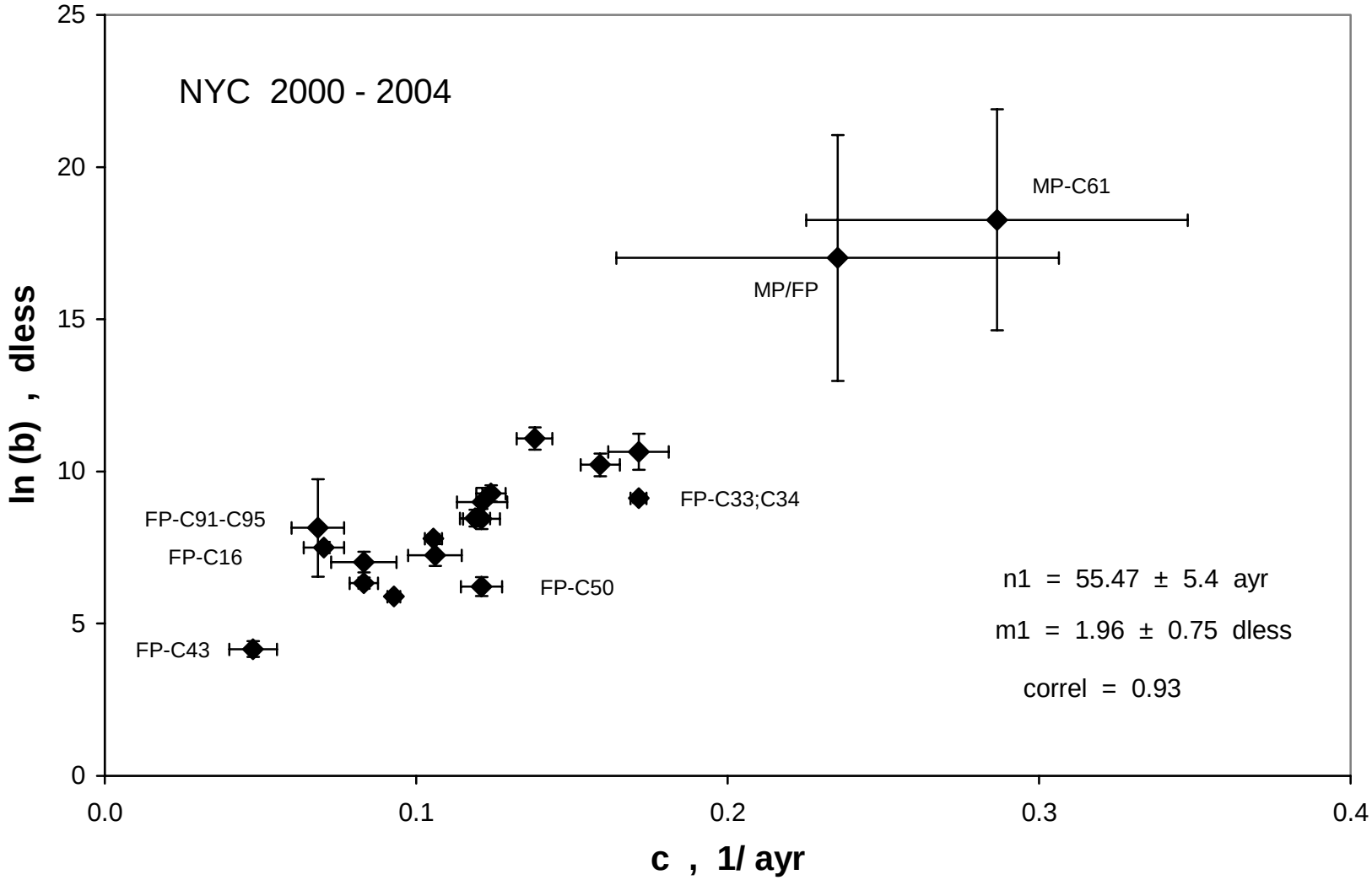

Figure 7. First phylogeny of most important cancer diseases registered in NYC in 2000 – 2004.

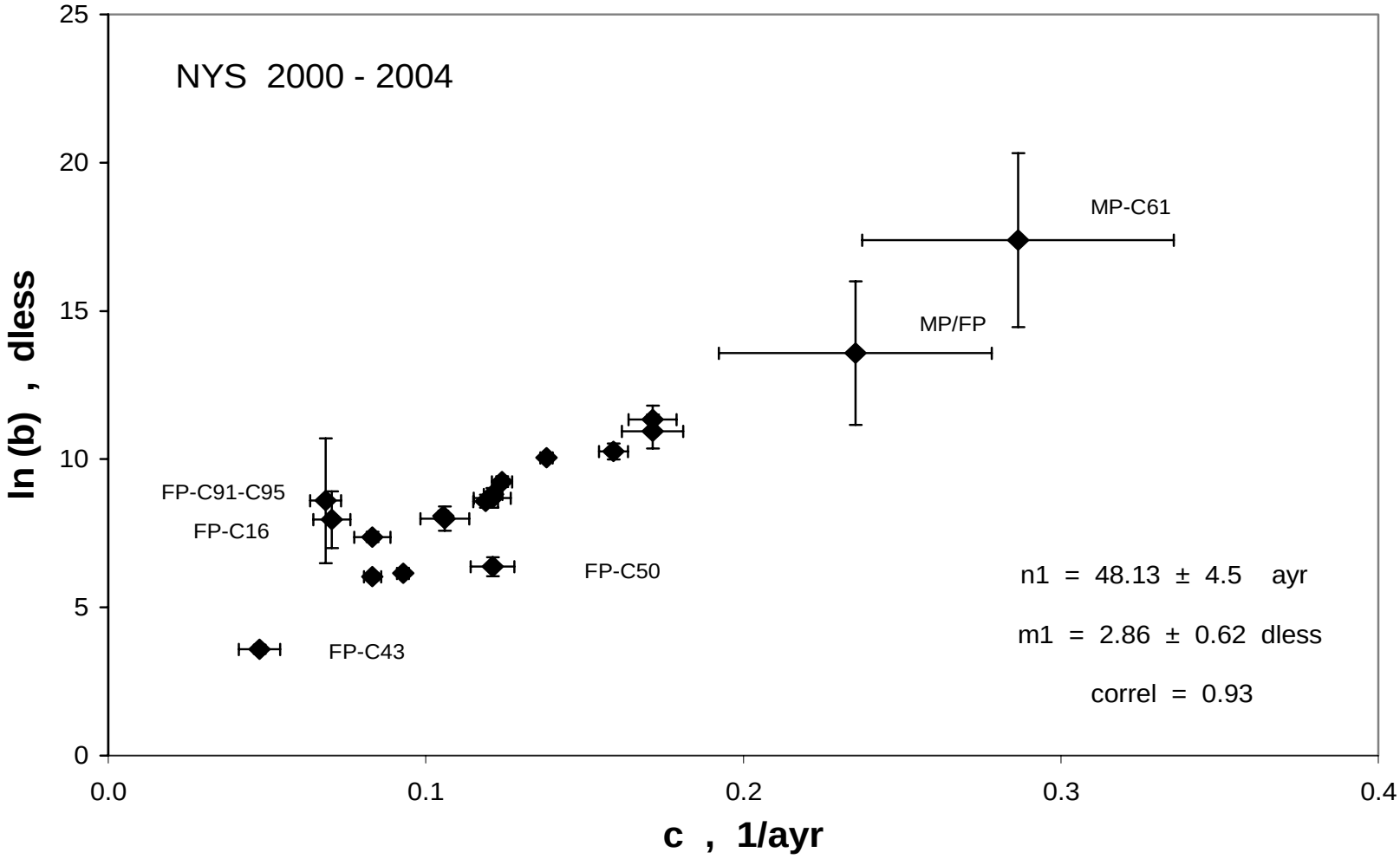

Figure 8. First phylogeny of most important cancer diseases registered in NYS in 2000-2004.

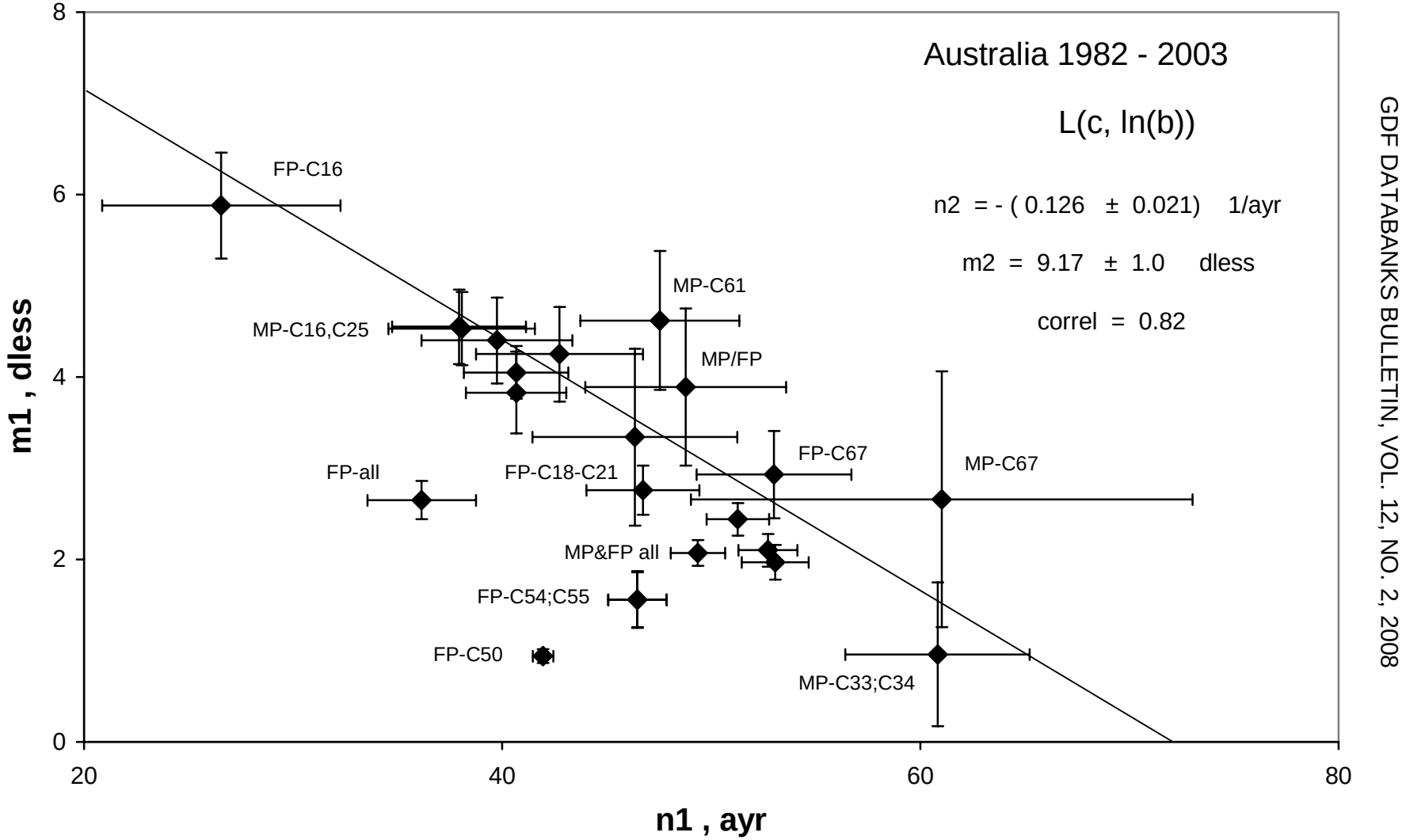

Figure 9. Second phylogeny of most important cancer diseases registered in Australia in 1982 – 2003.

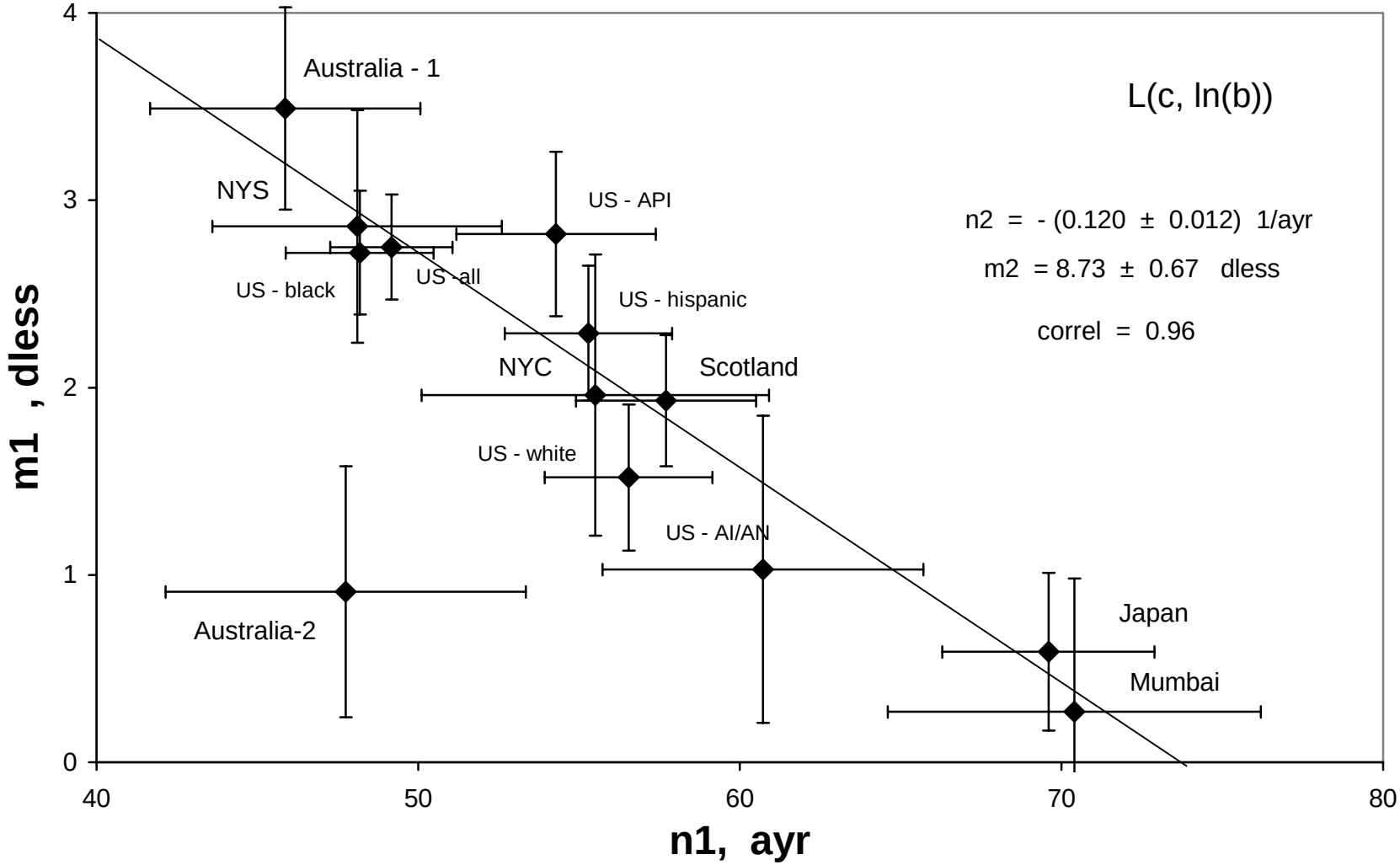

Figure 10. Second phylogeny of most important cancer diseases registered in different countries.

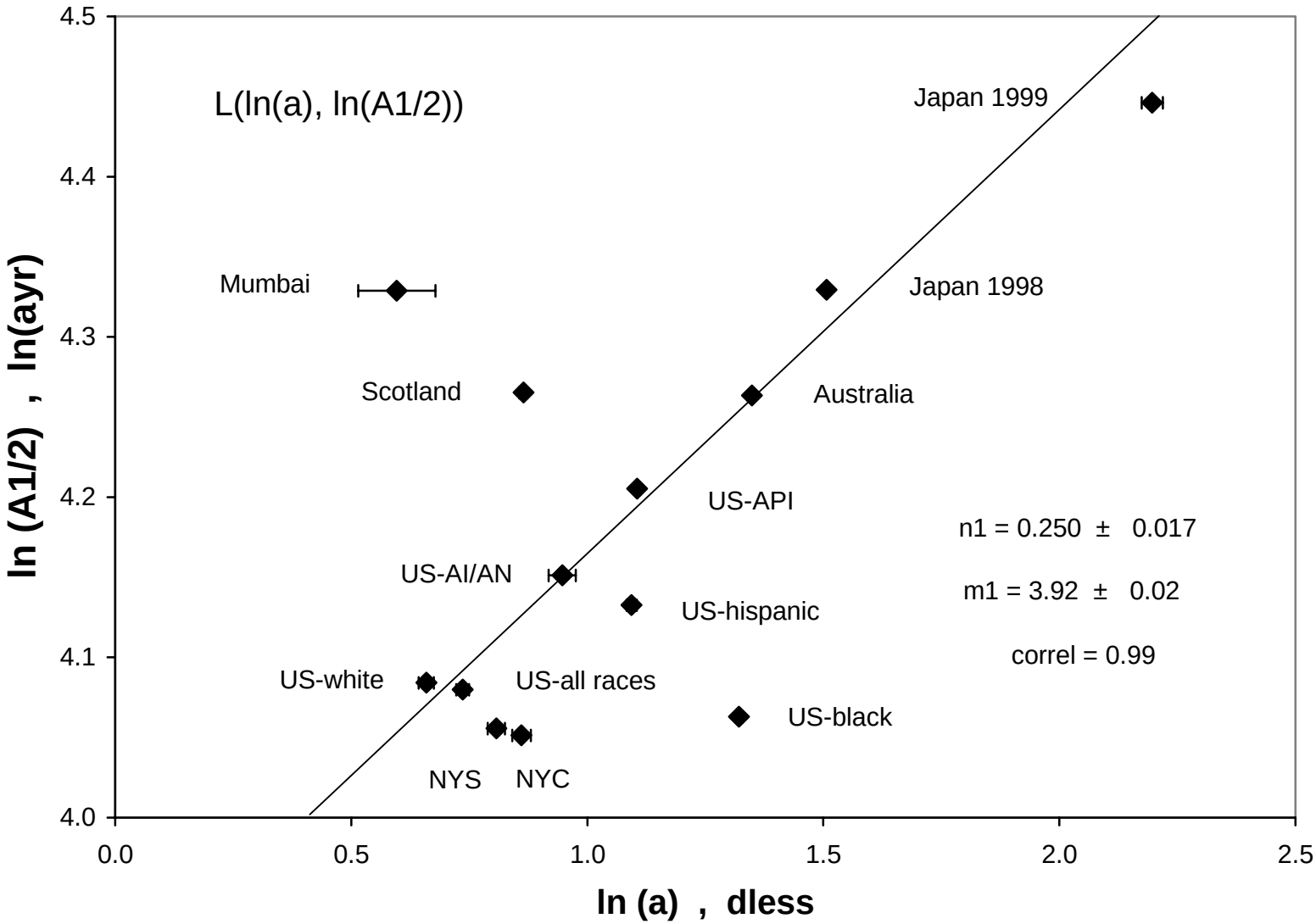

Figure 11. L(ln(a), ln(A1/2)) phylogeny of MP-C61/FP-C50 ratio for all registrations.

Table 8. Ratio of incidence for all cancers between MP and FP in different countries.

countries	a(MP)/a(FP)	a(FP)/a(MP)
Australia 1982 - 2003	1.937 ± 0.029	0.516 ± 0.008
Scotland 1980 - 2004	1.798 ± 0.033	0.556 ± 0.010
NYC 2000 - 2004	1.314 ± 0.007	0.761 ± 0.004
NYS 2000 - 2004	1.399 ± 0.006	0.715 ± 0.003
Mumbai 1990 -1996	1.910 ± 0.042	0.524 ± 0.012
Japan 1998	1.212 ± 0.17	0.825 ± 0.12
Japan 1999	1.115 ± 0.18	0.897 ± 0.14
average	**1.53 ± 0.35**	**0.68 ± 0.15**
US 1999		
all races	1.525 ± 0.001	0.654 ± 0.0004
white	1.508 ± 0.013	0.662 ± 0.006
black	1.803 ± 0.016	0.556 ± 0.005
API	1.407 ± 0.026	0.709 ± 0.013
AI/AN	1.596 ± 0.045	0.625 ± 0.018
hispanic	1.322 ± 0.035	0.758 ± 0.02
average	**1.53 ± 0.17**	**0.66 ± 0.07**

Table 9. Ratio of cancer incidence for all cancers between MP and FP as estimated by the first phylogeny parameter of representation L(a(MP), a(FP)) in different countries (see Figures 12, 13).

countries	n1 (dless)	1/n1 (dless)
Australia, Japan, Mumbai, NYC, NYS, Scotland	0.651 ± 0.049	1.536 ± 0.12
US 1999	0.610 ± 0.034	1.64 ± 0.042

Table 10. Ratio of incidence for all cancers between MP and FP as estimated by the first phylogeny parameter of two representations in RSA 1998, 1999 (see Figures 14, 15).

representations	n1 (dless)	1/n1 (dless)
L(%(MP), %(FP))	0.778 ± 0.065	1.29 ± 0.11
L(crude(MP), crude(FP))	0.701 ± 0.035	1.427 ± 0.071

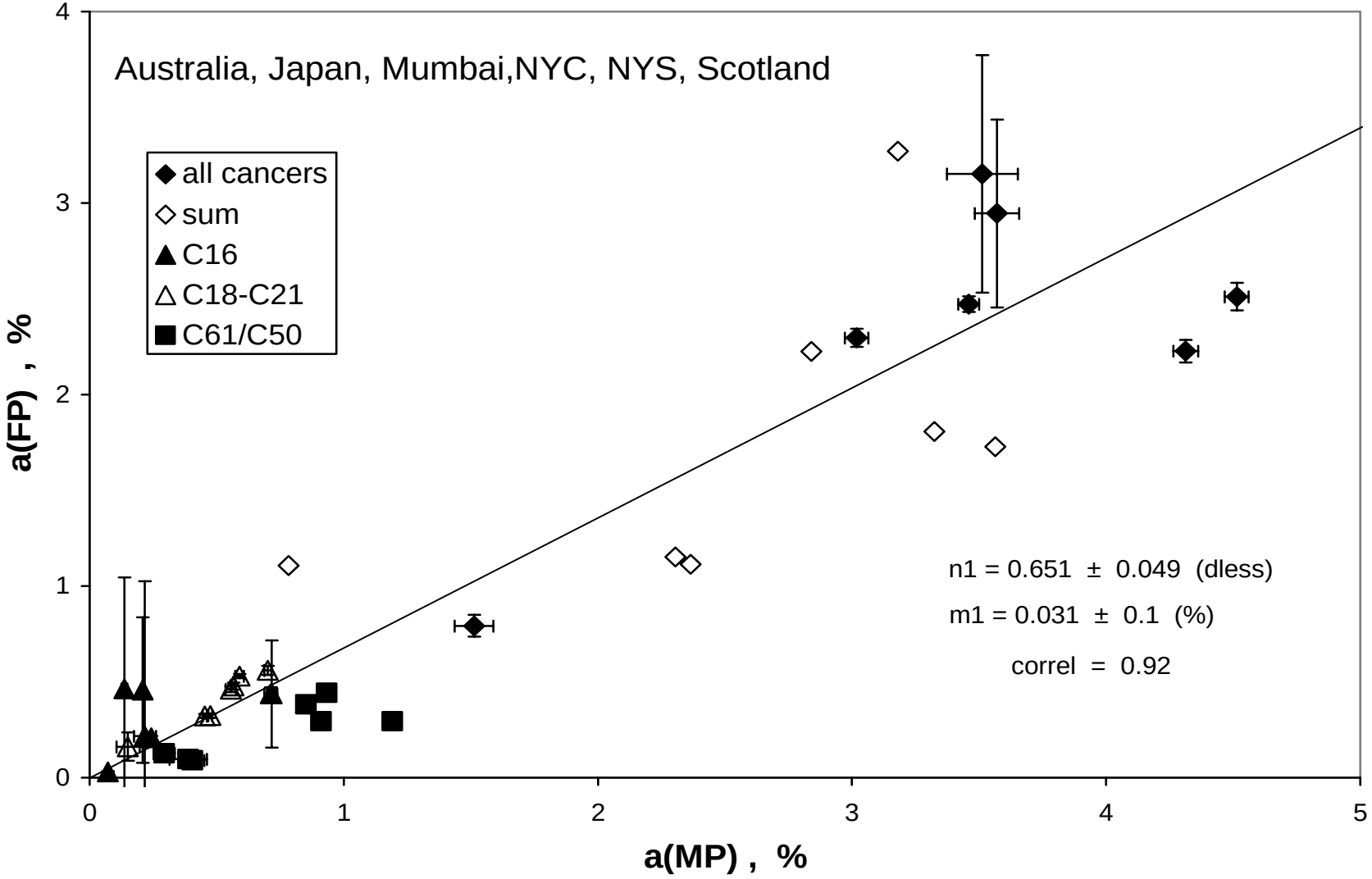

Figure 12. MP and FP incidence for most important cancer diseases and registrations.

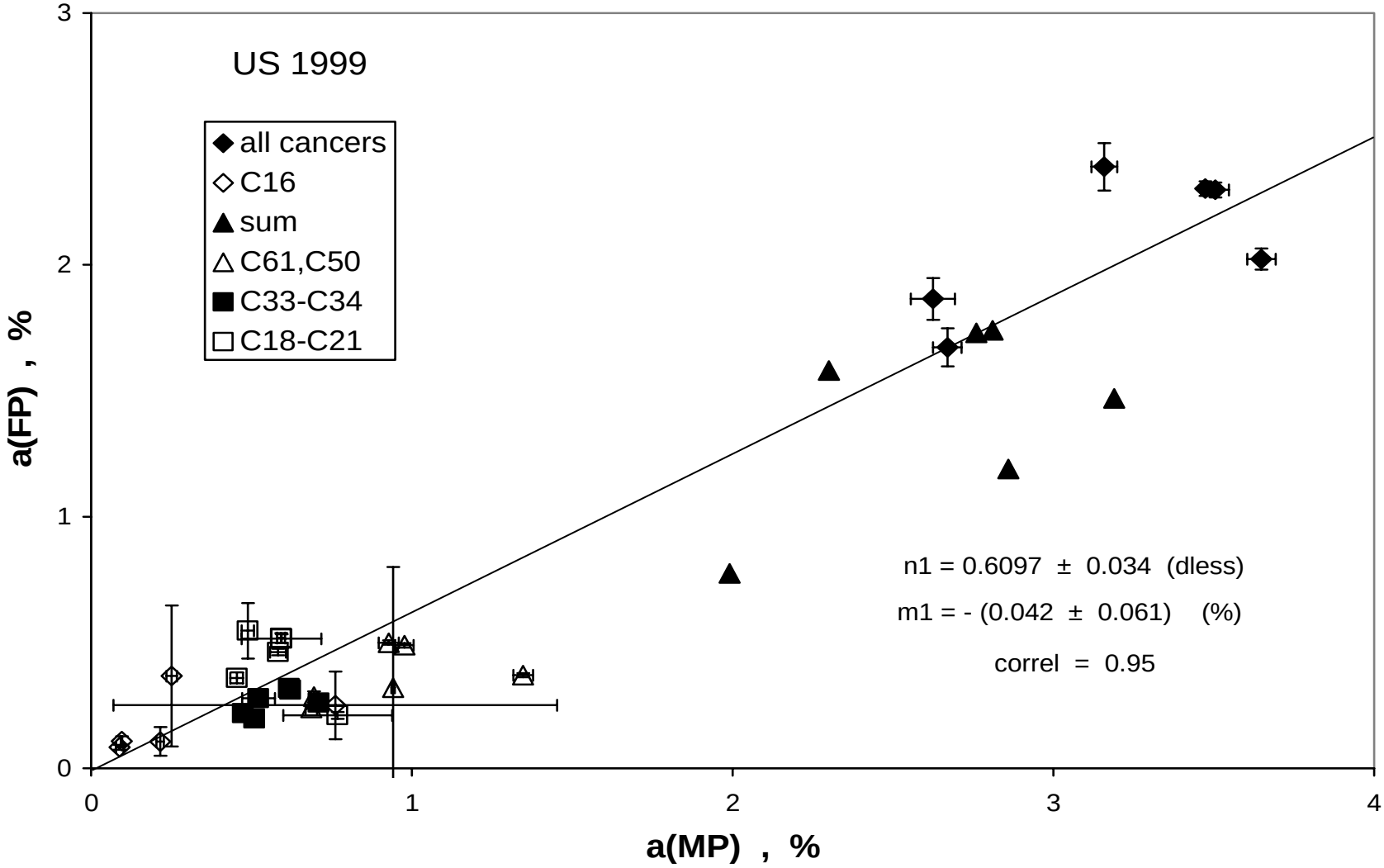

Figure 13. MP and FP incidence for most important cancer diseases registered in US 1999.

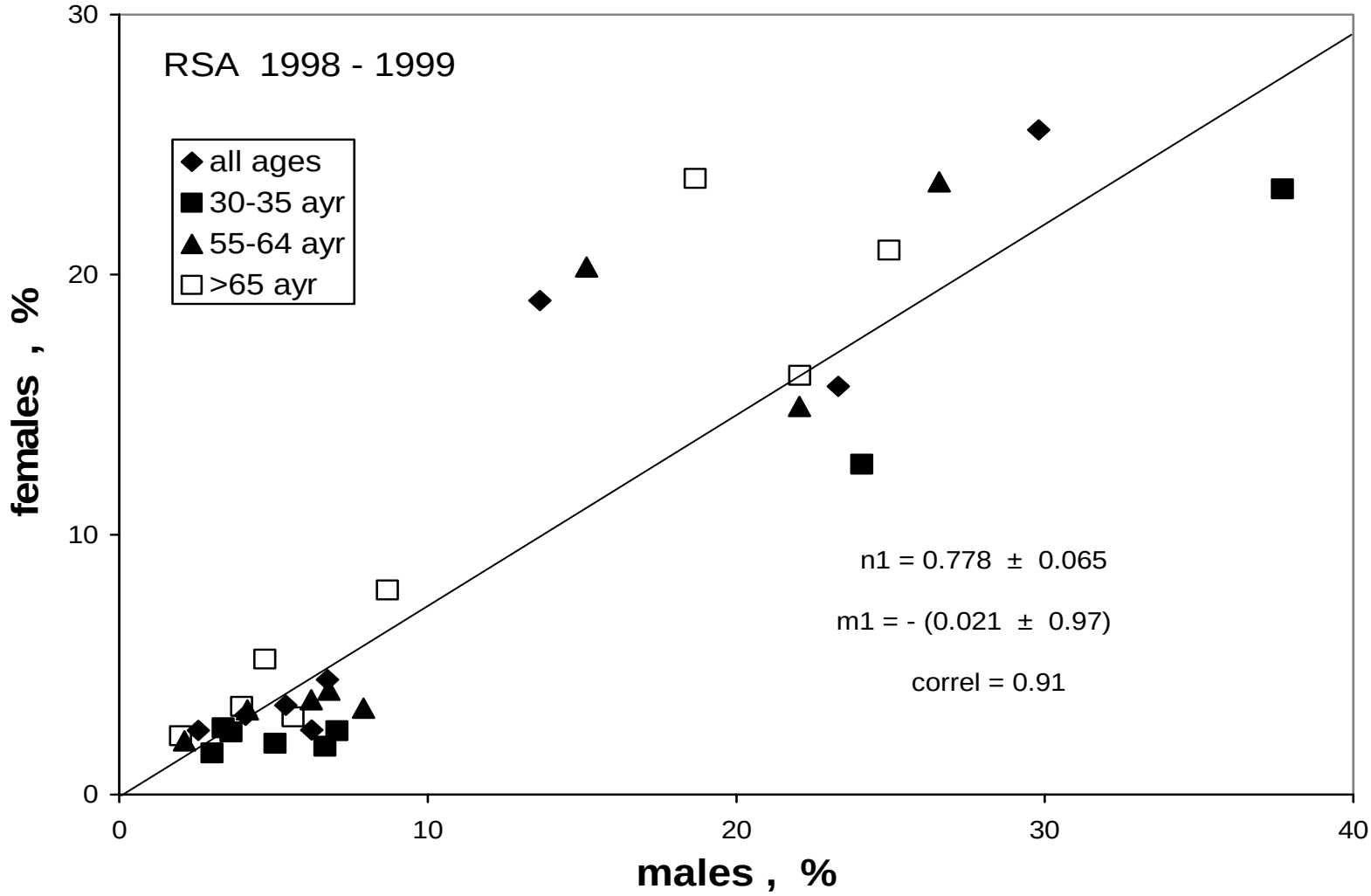

Figure 14. MP and FP incidence for most important cancer diseases registered in RSA 1998, 1999.

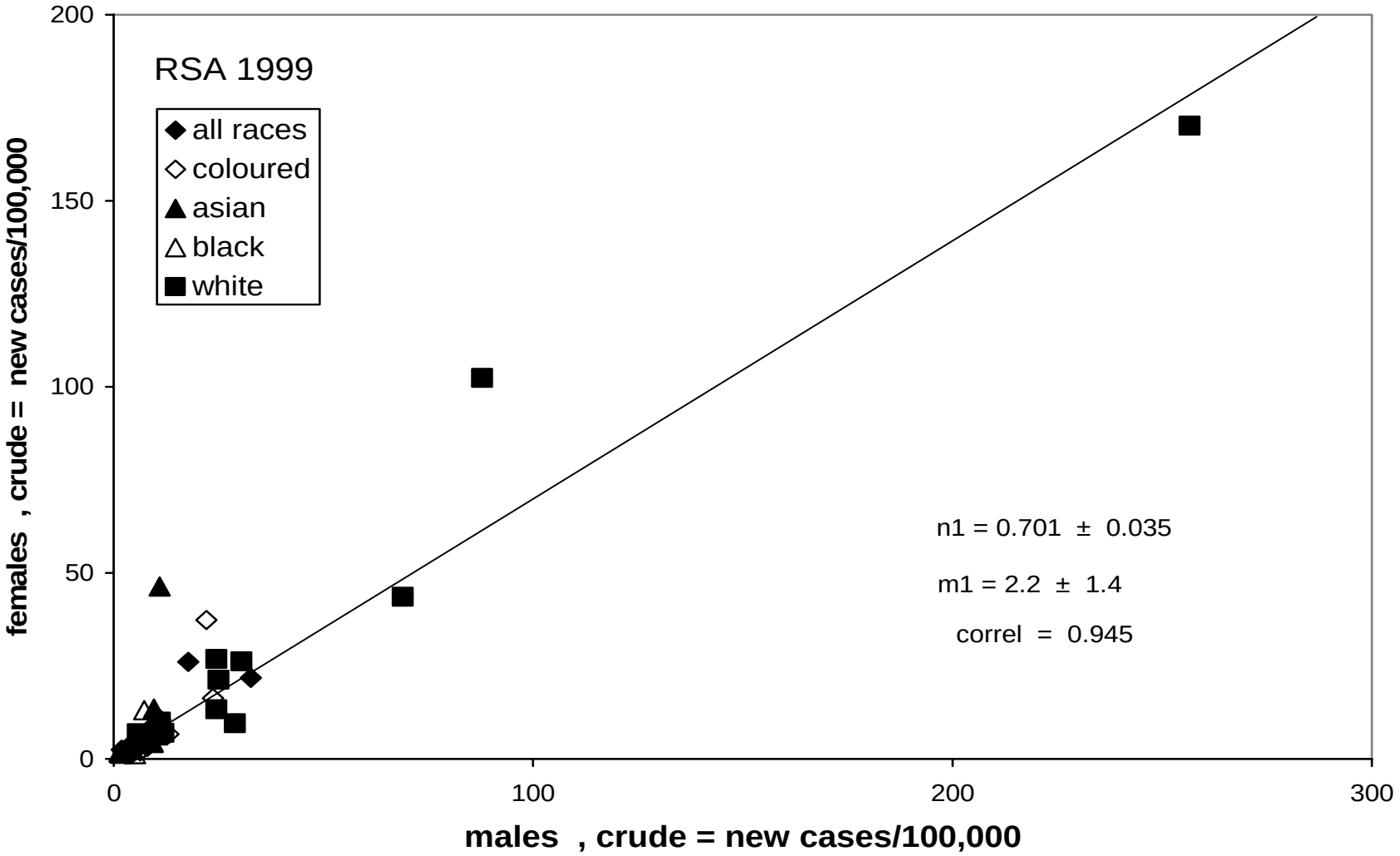

Figure 15. MP and FP incidence for most important cancer diseases registered in RSA 1998, 1999.

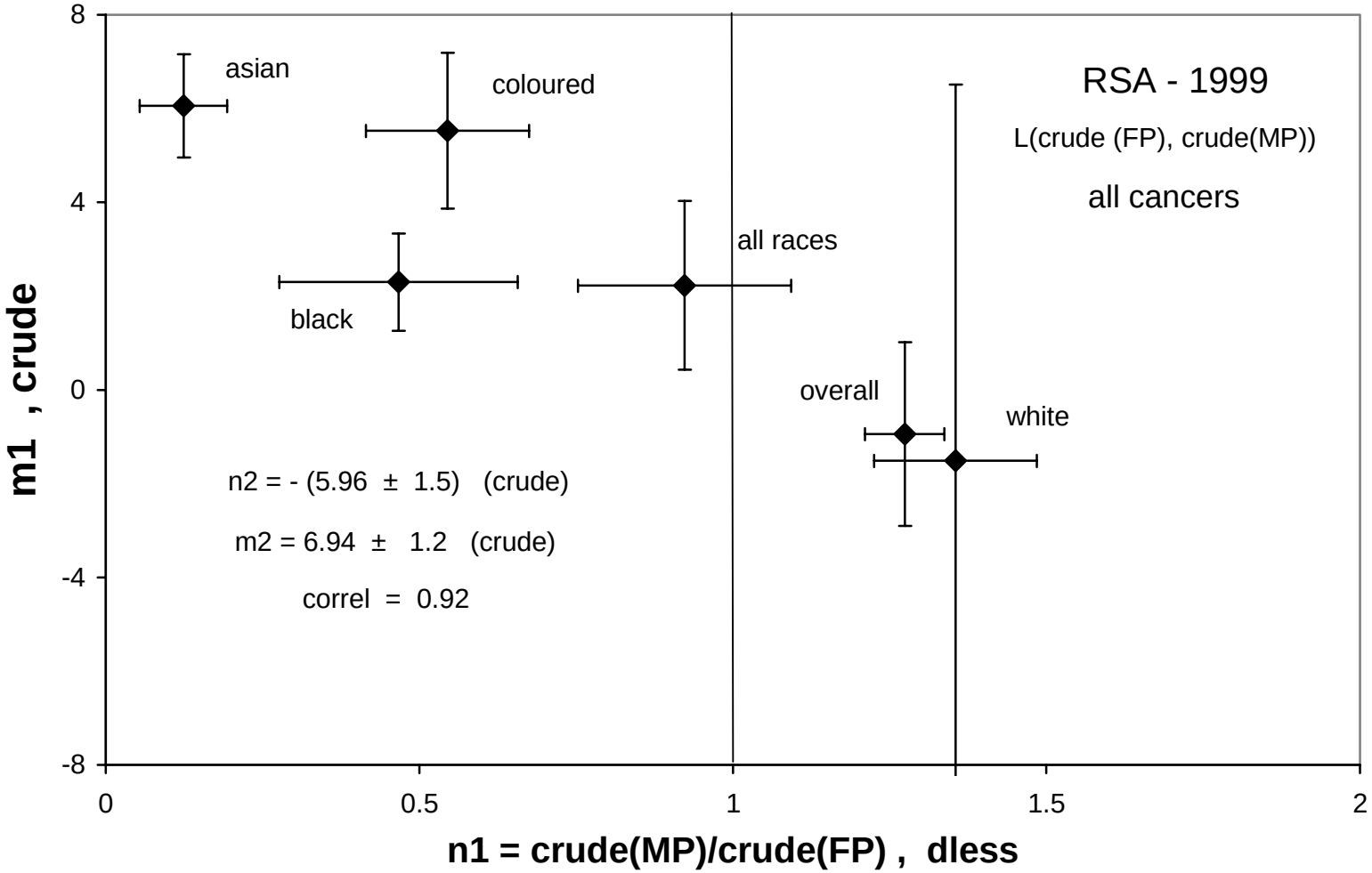

Figure 16. MP/FP coupling for all cancers and races registered in RSA -1999.

Table 11. Typical registration of most important cancer types in view to be considered for further study according to sigmoid and Universal representations.

age-specific rate per annum reported to 100,000 of specific population (sex, age, ethnic group/race, country, etc.)

type of cancer	age, ayr	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84
	population																	
all types	MP&FP																	
	MP																	
	FP																	
C16 stomach	MP&FP																	
	MP																	
	FP																	
C18-C21 colorectal	MP&FP																	
	MP																	
	FP																	
C25 pancreas	MP&FP																	
	MP																	
	FP																	
C33-C34 lung	MP&FP																	
	MP																	
	FP																	
C43(skin) skin	MP&FP																	
	MP																	
	FP																	
C50(breast)	FP																	
C61(prostate)	MP																	
C67(bladder)	MP&FP																	
	MP																	
	FP																	
C91-C95 leukemias	MP&FP																	
	MP																	
	FP																	

MP = Male Population, FP = Female Population

About the author:

First name	Gheorghe
Last name	Dragan
Born	1 September 1945, Ploiesti, Prahova (Romania)
Studies	Faculty of Physics, University of Bucharest, Romania (1963-1968) Ph.D.in Physics, University of Bucharest, Romania (1980)
experience	● Head of material testing laboratory, ICECHIM, Polymer Department, Bucharest (1969-1979); ● Initiator and leader of the research project on new forms and sources of energy; ICECHIM, Center of Physical Chemistry (1979-1988); ● Head of laboratory of analytical devices and measuring instruments, AMCO-SA, Bucharest (1988-1993); ● Technical manager of GDF-DATA BANKS, Bucharest (1993-present); ● Expert metrologist, Romanian Bureau of Legal Metrology, Bucharest, Romania (1997-2000).
publications	● 90 scientific papers ● 70 scientific communications ● 17 patents ● 5 books
Addresses:	Str. Abrud 25, Bucharest 011315, Romania c/o 19 Weaver Place Minchinbury, NSW 2770, Australia (0415-674-742, 02-9625-9906) dragan_gdf@yahoo.com

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GDF DATABANKS BULLETIN, VOL. 12, NO.2, 2008
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All correspondence at: dragan_gdf@yahoo.com

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SYDNEY February 2008

AUSTRALIA

ISSN 1453-1674